Hannah Lee

✉ hannahyklee@outlook.com   🔗 hannahyklee.github.io

Education

University of Washington *Sept 2023 – June 2024*
M.S. Computer Science and Engineering GPA: 3.97/4.0

- **Advisor:** Prof. Oren Etzioni
- **Thesis:** Identifying Modern Deepfakes: Bringing Fake Image Detection into the Wild

University of Washington *Sept 2019 – June 2023*
B.S. Computer Science; Applied Mathematics GPA: 3.98/4.0

- **Advisors:** Prof. Shwetak Patel, Jason Hoffman
- **Thesis:** Determining Input Image Quality for Smartphone Detection of Anemia
- *Magna cum laude, Interdisciplinary Honors Program*

Experience

Software Engineer *Redmond, WA*
Microsoft *Sept 2024 – Present*

- Contributing to the large-scale modernization and migration of inventory management software as part of the Inventory and Asset Management team of Cloud Operations and Innovation Engineering, supporting data center operations and Microsoft's increasing cloud investments.
- Responsible for optimizing APIs and focusing on redesigning to implement secure and modern design patterns for microservices while utilizing Azure services.

Machine Learning Intern *Seattle, WA*
TrueMedia.org *June 2024 – Aug 2024*

- Developed and trained a novel classification model that distinguishes between AI manipulated or otherwise digitally altered images from real images with over 97% accuracy on academic datasets and over 80% on unseen, in-the-wild examples, contributing to TrueMedia's efforts to fight political misinformation.
- Consistently conducted literature reviews and analyses of open-source systems to determine the state-of-the-art in deepfake detection, working with a small research team.

Software Engineering Intern *Redmond, WA*
Microsoft *June 2023 – Sept 2024*

- Designed and implemented Azure Function Jobs and UI tools to automate several manual processes for data center technicians as part of the Cloud Operations and Innovation Engineering organization and the Hardware Inventory Service team, supporting the rapid expansion of Microsoft's cloud investments.

Software Engineering Intern *San Francisco, WA*
Salesforce *June 2022 – Sept 2022*

- Designed and developed a customizable Salesforce Lightning Web Component for the Salesforce Commerce Cloud experience using Java, JavaScript/TypeScript and HTML/CSS to provide additional upselling opportunities to businesses. Component displays "Frequently Bought Together" products determined using the AI-powered Salesforce Einstein Connect REST API to encourage bundling of items.

Software Engineering Intern *Bellevue, WA*
T-Mobile US *June 2021 – Sept 2021*

- Built an internal-use API to reduce administrative task hours by at least 50% for T-Mobile Supply Chain developers. Also saved the Supply Chain organization $150,000-200,000 annually by developing a test automation suite using Java for the Device Lifecycle Management team's IBM Operational Decision Manager (ODM) internal APIs.

Publications

MINT-1T: Scaling Open-Source Multimodal Data by 10x: A Multimodal Dataset with One Trillion Tokens
Anas Awadalla, Le Xue, Oscar Lo, Manli Shu, <u>Hannah Lee</u>, Etash Kumar Guha, Matt Jordan, Sheng Shen, Mohamed Awadalla, Silvio Savarese, Caiming Xiong, Ran Xu, Yejin Choi, Ludwig Schmidt.
NeurIPS 2024, Datasets and Benchmarks Track, Vancouver, Cananda, Dec. 2024.

Artificial intelligence-enabled non-invasive ubiquitous anemia screening: The HEMO-AI pilot study on pediatric population
Daniel Gordon, Jason Hoffman, Keren Gamrasni, Yotam Barlev, Alex Levine, Tamar Landau, Ronen Shpiegel, Avishai Lahad, Ariel Koren, Carina Levin, Osnat Naor, <u>Hannah Lee</u>, Xin Liu, Shwetak Patel, Gilad Chayen, Michael Brandwein.
DIGITAL HEALTH, 2024.

The Tug-of-War Between Deepfake Generation and Detection
<u>Hannah Lee</u>, Changyeon Lee, Kevin Farhat, Lin Qiu, Steve Geluso, Aerin Kim, Oren Etzioni.
Data-centric Machine Learning Workshop at the 41st International Conference on Machine Learning, Vienna, Austria, Jul. 2024.

Recognition

Bob Bandes Memorial Award for Excellence in Teaching (Honorable Mention) *Paul G. Allen School, University of Washington*	*June 2024*
Boeing Excellence Award *Department of Applied Mathematics, University of Washington*	*June 2023*
Dean's List *University of Washington*	*June 2023*
College Honors *Honors Program, University of Washington*	*June 2023*

Presentations

Determining Input Image Quality for Smartphone Detection of Anemia
26th Annual Undergraduate Research Symposium, University of Washington, Seattle, WA, May 2023.

Monitoring Central Venous Pressure Using Smartphone Video
25th Annual Undergraduate Research Symposium, University of Washington, Seattle, WA, May 2022.

Teaching Experience

Graduate Teaching Assistant *University of Washington*

- Responsible for leading weekly staff meetings and delegating tasks; preparing course assignments, materials, and exams; maintaining and improving course code infrastructure; holding office hours; and monitoring online discussion boards.

  - *Spring 2024* CSE 599N Machine Learning for Neuroscience
  - *Winter 2024* CSE 446/546 Machine Learning (Head Teaching Assistant)
  - *Autumn 2024* CSE 446/546 Machine Learning (Head Teaching Assistant)

Undergraduate Teaching Assistant *University of Washington*

  - *Spring 2023* CSE 446/546 Machine Learning (Head Teaching Assistant)
  - *Winter 2023* CSE 446/546 Machine Learning (Co-Head Teaching Assistant)
  - *Autumn 2022* CSE 446/546 Machine Learning

Skills

Languages: Python, C#, Java, TypeScript, C++
Technologies: PyTorch, OpenCV, NumPy, SciPy, .NET, Microsoft SQL Server, Docker, Azure Kubernetes Service